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Committee for Orphan Medicinal Products

Public summary of opinion on orphan designation

Recombinant human alpha-1 antitrypsin for the treatment of emphysema secondary to congenital alpha-1 antitrypsin deficiency

First publication	3 June 2002
Rev.1: administrative update	17 February
Rev.2: transfer of sponsorship	6 March 2007
Rev.3: transfer of sponsorship	18 August 2008
Rev.4: withdrawal from the Community Register	22 May 2012
Rev.5: administrative update	13 December 2013
Disclaimer Please note that revisions to the Public Summary of Opinion are purely administrative updates. Therefore, the scientific content of the document reflects the outcome of the Committee for Orphan Medicinal Products (COMP) at the time of designation and is not updated after first publication.	

Please note that this product was withdrawn from the Community Register of designated orphan medicinal products in May 2012 on request of the sponsor.

On 30 April 2002, orphan designation (EU/3/02/100) was granted by the European Commission to Baxter AG, Austria, for recombinant human alpha-1 antitrypsin for the treatment of emphysema secondary to congenital alpha-1 antitrypsin deficiency.

The sponsorship was transferred to MDS Pharma Services France SAS, France, in October 2006 and subsequently to Fulcrum Pharma (Europe) Ltd., United Kingdom, in July 2008.

What is emphysema secondary to congenital alpha-1 antitrypsin deficiency?

Alpha-1 antitrypsin (AAT) is a protein that normally inhibits the activity of certain enzymes in the blood. One of these enzymes is elastase. The action of elastase is to destroy certain molecules that form the lung tissue. AAT controls this action of elastase. If AAT is missing then the action of elastase is no longer opposed. In the long term, this may damage the lungs and cause lung disease. Severe

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deficiency of AAT is related to parent's genetic input. Lung disease due to this deficiency is also called "Hereditary Emphysema". The condition is chronically debilitating and life-threatening.

What is the estimated number of patients affected by the condition?

At the time of designation, emphysema secondary to congenital alpha-1 antitrypsin deficiency affected approximately 2 in 10,000 people in the European Union (EU)[*]. This is equivalent to a total of around 101,260 people, and is below the ceiling for orphan designation, which is 5 people in 10,000. This is based on the information provided by the sponsor and the knowledge of the Committee for Orphan Medicinal Products (COMP).

What treatments are available?

Therapy for lung disease due to AAT deficiency includes the use of drugs to help breathing, hormones and drugs to help clear mucus. Lung infections will require prompt treatment with antibiotics. Human AAT to be administered intravenously has also been available in some countries in Europe. The drug has been obtained from human blood and needs to be injected into a vein. Oxygen may also be given in the more advanced stages and lung transplantation is used as a last resource.

This assumption will need to be confirmed at the time of marketing authorisation, in order to maintain the orphan status.

How is this medicine expected to work?

Recombinant human AAT is a protein that is produced in yeast using combinations of genes. The resulting AAT is similar to the natural protein found in the blood. The product is made into an aerosol, which the patient can inhale. In this way, the inhaled protein could reach the lungs where it would replace the natural AAT that is missing. In this way the inhaled AAT could oppose the effects of elastase. This action is expected to slow down the worsening of the lung disease.

What is the stage of development of this medicine?

The evaluation of the effects of recombinant human AAT in experimental models is ongoing. Studies in patients have not started yet.

At the time this orphan designation was submitted, the product had not been marketed anywhere in the world.

An orphan designation for this condition has been granted in the United States.

In accordance with Regulation (EC) No 141/2000 of 16 December 1999, the COMP adopted a positive opinion on 26 March 2002 recommending the granting of this designation.

[*]Disclaimer: For the purpose of the designation, the number of patients affected by the condition is estimated and assessed on the basis of data from the European Union.
At the time of designation, this represented a population of 380,600,000 (Eurostat 2002).

Opinions on orphan medicinal product designations are based on the following three criteria:

- the seriousness of the condition;
- the existence of alternative methods of diagnosis, prevention or treatment;
- either the rarity of the condition (affecting not more than 5 in 10,000 people in the EU) or insufficient returns on investment.

Designated orphan medicinal products are products that are still under investigation and are considered for orphan designation on the basis of potential activity. An orphan designation is not a marketing authorisation. As a consequence, demonstration of quality, safety and efficacy is necessary before a product can be granted a marketing authorisation.

For more information

Sponsor's contact details:

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For contact details of patients' organisations whose activities are targeted at rare diseases see:

- Orphanet, a database containing information on rare diseases which includes a directory of patients' organisations registered in Europe.
- European Organisation for Rare Diseases (EURORDIS), a non-governmental alliance of patient organisations and individuals active in the field of rare diseases.

Translations of the active ingredient and indication in all official EU languages[1], Norwegian and Icelandic

Language	Active ingredient	Indication
English	Recombinant human alpha-1-antitrypsin	Treatment of emphysema secondary to congenital alpha-1-antitrypsin deficiency
Bulgarian	Рекомбинантен човешки алфа-1 антитрипсин	Лечение на вторичен емфизем при вроден алфа-1 антитрипсинов дефицит
Czech	Rekombinantní lidský alfa-1-antirypsin	K léčbě sekundárního emfyzému způsobeného vrozeným deficitem alfa-1-antitrypsinu
Danish	Rekombinant humant alfa-1-antitrypsin	Behandling af emfysem som følge af medfødt alfa-1-antitrypsinmangel
Dutch	Recombinant humaan alfa-1-antitrypsine	Behandeling van emfyseem ten gevolge van aangeboren alfa-1-antitrypsine deficiëntie
Estonian	Rekombinantne inimese alfa-1-trüpsiin	Kaasasündinud alfa-1-trüpsiini defitsiidist tingitud sekundaarse kopsuemfüseemi ravi
Finnish	Rekombinantti humaani alfa-1-antitrypsiini	Synnynnäisestä alfa-1-antitrypsiinin puutteesta johtuvan emfyseeman hoito
French	Alpha-1-antitrypsine humaine recombinante	traitement de l'emphysème lié à un déficit congénital en alpha-1-antitrypsine
German	Humanes rekombinantes Alpha-1-Antritrypsin	Behandlung von Lungenemphysem infolge von angeborenem Alpha-1-Antitrypsinmangel
Greek	Ανασυνδυασμένη ανθρώπινη α-1 αντιθρυψίνη	θεραπεία του δευτεροπαθους εμφυσήματος στη συγγενή έλλειψη α-1- αντιθρυψίνης
Hungarian	Rekombináns humán alfa-1-antitripszin	Kongenitális alfa-1-antitripszin hiány okozta emphysema kezelése
Italian	Alfa-1-antitripsina umana ricombinante	Trattamento di enfisema secondario alla carenza congenita di alfa-1-antitripsina
Latvian	Rekombinants cilvēka alfa-1-antitripsīns	Lai ārstētu sekundāru emfizēmu, ko izraisījusi iedzimta alfa-1-antitripsīna nepietiekamība
Lithuanian	Rekombinantinis žmogaus alfa-1-antitripsinas	Antrinės emfizemos, esant įgimtai alfa-1-antitripsino stokai, gydymas
Maltese	Alpha-1 antitrypsin uman rikombinanti	Kura ta' l-emfisema sekondarja għal nuqqas konġenitu ta' l-alpha-1 antitrypsin
Polish	Rekombinowana ludzka alfa-1 antytrypsyna	Leczenie rozedmy wtórnej do wrodzonego niedoboru alfa-1 antytrypsyny
Portuguese	Alfa-1-antitripsina humana recombinante	Tratamento com enfisema secundário a deficiência congénita de alfa-1-antitripsina
Romanian	Alfa-1 antitripsină umană recombinantă	Tratamentul emfizemului secundar deficitului congenital de alfa-1 antitripsină
Slovak	Rekombinantný ľudský alfa-1-antitrypsín	Liečba emfyzému pri vrodenom nedostatku alfa-1-antitrypsínu
Slovenian	Rekombinantni humani alpha-1 antitrypsin	Zdravljenje emfizema, ki je posledica kongenitalnega pomanjkanja antitripsina alfa-1
Spanish	Alfa-1-antitripsina humana de origen recombinante	Tratamiento de enfisema pulmonar secundario a déficit congénito de alfa-1-antitripsina

[1] At the time of transfer of sponsorship

Language	Active ingredient	Indication
Swedish	Rekombinant human alfa-1-antitrypsin	Behandling av emfysem till följd av medfödd brist på alfa-1-antitrypsin